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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/536,209 09/29/95 MCMAHON

M FX-2

EXAMINER

WIGGINS, J

ART UNIT

PAPER NUMBER

02

B2M1/0506

VYTAS R MATAS
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PEPPER PIKE OH 44124

2212

DATE MAILED:

05/06/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 09/29/1995 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-32 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 1-2, 9, 12-17 and 29-32 are rejected.

5. ☒ Claims 3-8, 10-11, and 18-28 are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☒ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

Part III DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On Page 12, claim 1, line 3; please correct the mis-spelled word "form" into the following intended form: --- from ---

On page 12, claim 1, line 6; after the word "mounted", please consider inserting the following term: --- "ex-situ" ---

On page 12, claim 3, line 3; after the word "wall", please consider inserting the following text:

--- for returning said portion of grain back into a normal flow of moving grain within the combine thresher ---

On page 12, claim 4, line 1; after the word "grain", please consider inserting the following term: --- moisture content ---

On page 15, claim 17, line 1; before the word "averaging", please consider inserting the following text:

--- further calculating step of ---

On page 17, claim 32, line 2; after the word "frequency", please consider inserting the following text:

--- f^* via the known standard relationship $f^*=1/t$ ---

On Page 11, line 7 of the specification; after the word "stream" please consider inserting the following term: --- force ---

On Page 11, line 10 of the specification; after the word "different" please consider inserting the following term:

--- optical light ---

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1, 2, 9 and 16 are rejected under 35 U.S.C. § 103 as being unpatentable over Schroeder, M. et al. in view of Gerrish, S..

The prior art of Schroeder et al. teaches all features of the instant invention except for mounting a moisture analyzer on an external wall of the combine thresher/harvester machine. However, Gerrish does disclose the technique of measuring moisture content of grain external to a harvesting machine via his large volume containing weight bucket (part 24), moisture sensor (part 44) and test weight device (part 31) shown within the open-frame exposed grain tank (part 14) of Figures 1 and 2. In light of reading Gerrish, it would have been obvious to one of ordinary skill in the art to consider installing the moisture sensor of Gerrish thru an external wall on the combine machine of Schroeder et al. since Figure 9 of Schroeder et al. discloses a moisture sensor mounted on internal walls or surfaces (at part 102), and Figure 8 reveals a moisture sensor (part 36) mounted thru a tube wall of the draw auger (part 24), and Figure 2 shows such a moisture sensor assembly (part 22) mounted in five different locations within the grain bin (part 27) and grain moving means of combine relative to the draw auger, elevator and fill auger to illustrate five various operational embodiments of his invention. The motivation prompting one to redirect a portion of the grain flow path around the combine moving means with a bypass route leading to such moisture analyzer is based upon the

desire for easy operator access for inspection or adjustment, quick operator confirmation of a properly working system, and hands-on availability for bucket/sensor calibration, cleaning or replacement- please see Column 8, lines 8-46. In regards to claim 2, it is largely considered arbitrary and a matter of design choice to install an inlet opening and outlet opening thru an external wall as a means of providing a bypass route means towards an externally mounted (= "ex situ") sensor on the same wall. In regards to claim 9, Gerrish teaches the instant invention because the striker blade (part 35) of the test weight device is regarded as a detector means capable of sensing the full condition of the test weight device (part 31, which is consider tantamount to the moisture sensing cell of the instant invention), and because the bottom trap door (part 33) is considered to provide flow means that moves the grain out of the sensing cell after a moisture measurement is made in response to a control signal from a full condition detector means.

4. Claim 17 is rejected under 35 U.S.C. § 103 as being unpatentable over Schroeder, M. et al. in view of Gerrish, S. as applied to claim 16 above, and further in view of Braun, K. et al..

The prior art of Schroeder, M. et al. and Gerrish, S. teaches all features of the instant invention except for calculating the average of continuous gain moisture measurements over an operator determined time period. However, Braun et al.

does disclose this method in thorough fashion at Column 4, line 65 - Column 5, line 22 therein, and also at Column 7, lines 27-64 thereof. It would have been obvious to one of ordinary skill in the art to consider making such time averages from a set of continuous measurements in order to mask out the spurious variations and apparent error effects of natural cause discrepancies or equipment tolerances (such as evaporation hot spots or residual living waste products or insect body fluid).

sensor signal drift

Claim Rejections - 35 USC § 112

5. Claims 12 and 29 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12-15 and 29-32 are rejected for showing a lack of proper antecedent basis due to the unprecedented appearance of the terms "said cell dual detector means" in claim 12, line 2, and "the frequency of the cell voltage" in claim 29, line 2, respectively; which unprecedented usage results in a vague and ambiguous claim interpretation in that and any further dependent claims leading therefrom.

Allowable Subject Matter

6. Claims 3-8, 10-11, 18-25 and 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if

rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 12-15 and 29-32 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112 and to include all of the limitations of the base claim and any intervening claims.

8. The following is an Examiner's statement of reasons for the indication of allowable subject matter: The prior art fails to disclose a combine thresher having a continuous grain moisture analyzer mounted "ex-situ" on an external wall of the combine that is provided with means for bypassing a portion of the grain passing between the grain floor and storage bin therein to move through the grain moisture analyzer, where the moisture analyzer has a sensing cell for measuring grain moisture and has feed means for moving the grain from the sensing cell to an outlet opening formed thru the external wall of combine.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references listed on the accompanying form PTO-892 are cited to show examples of state of the art moisture sensors used in agricultural combine harvesters which share one or more features in common with the instant invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. David


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Art Unit: 2212

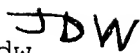
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Wiggins whose telephone number is (703) 305-4884. The examiner can normally be reached on Monday to Friday from 9AM to 7PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams, can be reached on (703) 305-4705. The fax phone number for this Group is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.


HEZRON E. WILLIAMS
SUPERVISORY PATENT EXAMINER
GROUP 2200


WIGGINS\jdw
April 28, 1996